

REMARKS

This amendment is in response to a non-final Office action (Paper No. 10) dated November 7, 2002. Upon entry of this amendment, claims 1-27 will be pending in this application. Applicant has amended claims 4, 6, 7, 19 and 20 by this amendment and has newly added claims 21-27 by this amendment.

In paragraph 1 of Paper No. 10, the Examiner objected to claims 4, 6, 7, 19 and 20. Applicant has amended these claims by this amendment to overcome these claim objections.

In paragraph 2 of Paper No. 10, the Examiner has rejected independent claim 1 and depending claims 2, 3, 4, 19 and 20 under 35 U.S.C. § 102 (e) as being anticipated by newly cited Abe *et al.*, U.S. Patent No. 6,151,046. Applicant traverses this rejection.

Applicant's invention and Applicant's claim 1 pertain to an electrical connection between a printed circuit board on a carrier of an ink jet printer and electrical contacts on an ink cartridge mounted on said carrier. In contradistinction, Abe '046 pertains to electrical connections within an ink cartridge. In particular, Abe '046 pertains to an electrical connection between electrical pads on a top wall or surface of the ink cartridge opposite to where the ink is ejected from to a recording head in the ink cartridge. Since Abe '046 contemplates a multi colored ink jet cartridge, multiple electrical connections are needed in the ink cartridge to contact recording heads for each color of ink used.

Regarding Applicant's claim 1, Applicant claims that the bent connection portion 133 of each connector 130 provides elastic restoration force between the third contact portion 132 and the base 131. The base 131 of the elastic member 130 is connected to the PCB 124 while the third contact portion 132 is connected to contacts 12 on the ink cartridge 10 and the bent connection portion 133 that creates the elastic restoration force for the third contact portion 132. Abe '046 does not have such a structure.

In Paper No. 10, the Examiner equates Applicant's third contact portion 132 with terminal 4501 of Abe '046. Applicant submits that reference numeral 4501 in Abe '046 is not a contact portion but the entire electrical connector itself (see column 10, lines 37-48 of Abe '046). Part of this terminal 4501 is contact 4514 which the Examiner equates with Applicant's connection portion 133 and contact 4515 which the Examiner equates with Applicant's base 131. Applicant submits that this is inappropriate as Applicant claims in claim 1 that the connection portion 133 or bent portion of the members 130 provides elastic restoration force between the third contact portion 132 and the base 131. It is therefore improper to construe Applicant's claim 1 to mean that this connection portion 133 as comprising the base 131 and the third contact member 132. Therefore, the prior art rejection of claim 1 must be withdrawn.

Because the Examiner, in Paper No. 10 improperly equated an entire terminal 4501 with Applicant's third contact portion 132, it is difficult for Applicant's to accurately and fairly respond to the rejection presented in Paper No. 10.

In Paper No. 10, the Examiner equates “contact” 4514 of Abe ‘046 with Applicant’s connection portion which serves to provide the elastic restoration force to third contact portion 132. In other words, the Examiner is equating a “contact” with a bent portion 133 of Applicant’s claim 1 which does not serve, in Applicant’s invention or in Applicant’s claim 1 as a contact but instead serves to provide an elastic restoration force for a contact as recited by the Examiner in Paper No. 10. This rejection is inappropriate and the rejection must be withdrawn.

In Paper No. 10, the Examiner equates “contact” 4514 with Applicant’s connection portion 133 that provides elastic restoration force between the base 131 and the third contact portion 132. However, the Examiner turns to column 3, lines 58-59 of Abe ‘046 for a teaching of the “elastic” feature. Column 3, lines 58-59 is part of the Summary of the Invention section of Abe ‘046 and does not pertain to the embodiment that the Examiner is relying on in Paper No. 10 to reject Applicant’s claim 1. The Examiner relies on the embodiment of FIGS. 7-17 of Abe ‘046 in Paper No. 10 to reject Applicant’s claim 1. This elastic feature cited by the Examiner in Paper No. 10 pertains to another embodiment of Abe ‘046, the embodiment of FIGS. 35-43 of Abe ‘046. Applicant submits that the embodiment of FIGS. 7-17 of Abe ‘046 does not discuss elastic forces in an electrically conductive member as claimed by Applicant in claim 1. Therefore, the rejection presented in Paper No. 10 must be withdrawn.

Regarding claim 3, in Paper No. 10, the Examiner states that reference numeral 4510 of Abe ‘046 is a window of housing 4506. Applicant disagrees. In claim 3, Applicant claims that

the windows 135 expose respective ones of said spring elastic members 130 to the outside. Reference numeral 4510 in Abe '046 is a hole. Reference numeral 4510 of Abe '046 is not illustrated in FIG. 14 as the Examiner alleges. Instead, reference numeral 4510 appears in FIG. 15 of Abe '046. It is clear from FIG. 15 of Abe that reference numeral 4510 does not serve to expose one or any spring elastic members. Hole 4510 of Abe '046 is completely away and separated from connector 4509 or terminal 4501 as is clearly illustrated in FIG. 15 of Abe '046.

Applicant is newly adding claims 21-27 by this amendment to further separate Applicant's claims from the Abe '046 patent. These claims claim additional features not taught nor suggested by Abe '046, such as the printed circuit board not being on the ink cartridge, the bent connection portion that causes the elastic restoration force being separate from the third contact portion, each conductive member having 2 bends, one at the connection portion and the other at the third contact portion, and that the elastic restoration force serves to push the third contact portion into the contacts on the ink cartridge. Entry of, and favorable examination of these claims is respectfully requested.

A fee of \$126.00 is incurred by the addition of seven (7) claims in excess of 20. Applicant's check drawn to the order of Commissioner accompanies this Response. Should the check become lost, be deficient in payment, or should other fees be incurred, the Commissioner is authorized to charge Deposit Account No. 02-4943 of Applicant's undersigned attorney in the amount of such fees.

In view of the above, all claims are deemed to be allowable and this application is believed to be in condition to be passed to issue. Should any questions remain unresolved, the Examiner is requested to telephone Applicant's attorney.

Respectfully submitted,



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VERSION WITH MARKINGS TO SHOW CHANGES MADE

IN THE CLAIMS

Please amend claims 4, 6, 7, 19 and 20 by this amendment as follows and newly add claims 21-27 as listed above:

1 4. (Thrice Amended) The apparatus of claim 1, wherein one end of each one of a
2 plurality of bases being electrically connected to the printed circuit board by solder to form one
3 of said plurality of second contacts.

1 6. (Twice Amended) The apparatus of claim 5, wherein the nickel being formed to a
2 thickness of 0.5 to 20 μm , and the gold being formed to a thickness of 0.1 μm or greater.

1 7. (Twice Amended) The apparatus of claim 5, wherein the nickel being formed to a
2 thickness of 1.27 μm , and the gold being formed to a thickness of 0.3 μm .

1 19. (Amended) The apparatus of claim 1, wherein said bent portion comprising only a
2 single bend in each one of said plurality of elastic members, said bend providing all of said
3 elastic restoration force of each one of said plurality of elastic members.

1 20. (Amended) The apparatus of claim 1, wherein each one of said elastic members
2 being absent of a coil spring, each one of said elastic [member] members being absent a rigid
3 conductive member.